ISS 506

SIX INPUT SEAMLESS SWITCHER

Presentation Enhancing
Truly Seamless Switcher

- Seamless switching between video, HDTV, and RGB input sources
- Program and Preview outputs
- Seamless transition effects including wipe, dissolve, and cut
- Logo insertion with Dynamic Image Capture
- Optional DVI-D, 3G/HD-SDI, or scan-converted video output

Extron® Electronics
INTERFACING, SWITCHING AND CONTROL

Introduction

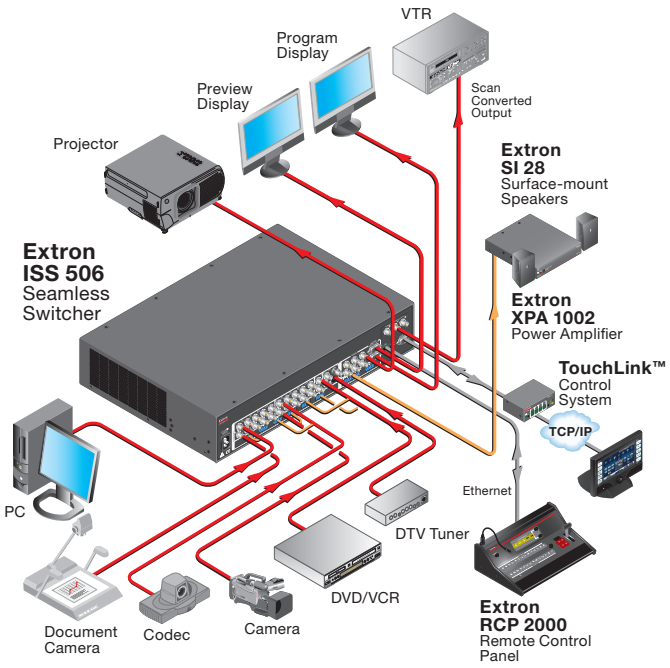
The **ISS 506** is a six input seamless switcher that accepts a wide variety of video signals, including RGB computer-video, HDTV, and standard definition video. It combines truly seamless, glitch-free switching with advanced scaling technologies to meet the requirements of high quality, high resolution video presentations. With presentation-enhancing features such as independent Preview and Program outputs, numerous switching transition effects, logo insertion, title keying, internal test patterns, and multiple control methods, the ISS 506 is designed to deliver advanced capabilities to high-end presentation environments.

The six input ISS 506 includes four fully configurable inputs, each capable of accepting all common high resolution and standard video signals, from RGB computer-video to composite video. An optional SDI/HD-SDI input is also available. The ISS 506 also provides six input stereo audio switching for unbalanced or balanced audio signals, each with independent gain and attenuation control. It also offers an output volume control.

For increased system flexibility, the ISS 506 features **separate Preview and Program outputs**. Discrete input selection for each output enables preview capability of the “next to switch” source, allowing an operator to cue material locally on a Preview monitor, touch-screen control panel, or other viewing device.

Two simultaneous Program outputs are provided for dual-screen environments. Additionally, the ISS 506 can be configured with an optional output card to suit specific system needs. Available output cards include 3G/HD-SDI, DVI, and scan-converted standard definition video.

For **professional transitions between inputs**, the ISS 506 offers a wide range of effects, including dissolves and wipes with selectable durations, as well as a cut. When the switching includes audio signals, audio cross-fading is implemented that matches the duration of the video transition effect.

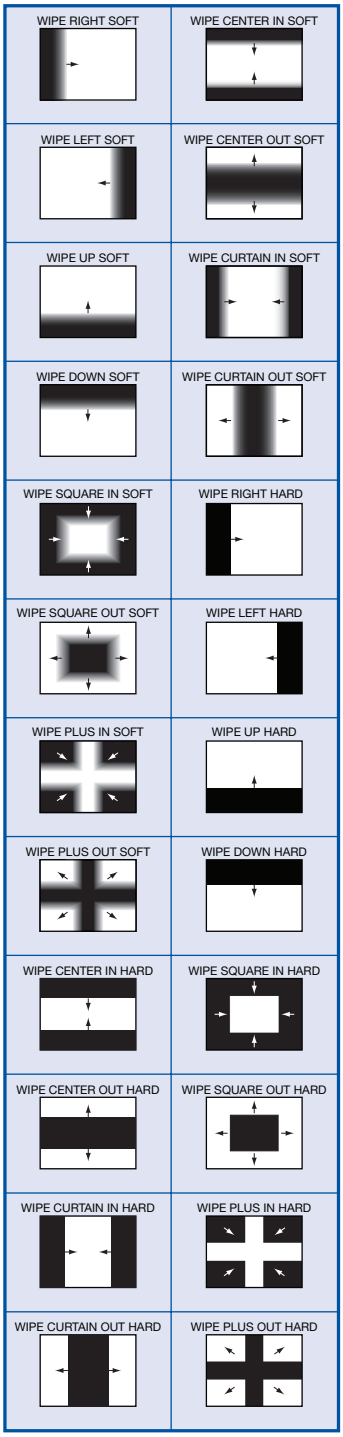


In addition to seamless transition effects, the ISS 506 includes a host of features for enhancing presentations. A **PIP - picture-in-picture mode** allows insertion of a PIP window that can be sized and positioned anywhere onscreen, and transitioned into and out of the image via wipe, dissolve, or cut effects.

The ISS 506 also provides the **capability to insert one or two graphic logos** into any presentation. A corporate logo, black screen, or any captured portion of an image can be positioned and keyed into the presentation. Additionally, title keying is available for overlaying title information for I-MAG applications, or other content from any input source.

With **versatile control functionality**, the ISS 506 is ideal for corporate boardrooms, auditoriums, houses of worship and other live events. Full setup and operation is available from the front panel as well as through RS-232 and Ethernet control. Furthermore, presentations can be managed using the Extron RCP 2000 Remote Control Panel.

Features



Seamless Transition Effects

The ISS 506 offers 26 seamless transition effects including 24 wipe options, in addition to a dissolve and a cut effect.

Truly Seamless Switcher for High-End Presentations

The ISS 506 is equipped with two integrated, high performance scalers allowing for true seamless switching between high resolution computer-video, HDTV, and standard definition video sources for smooth, glitch-free transitions.

Fully Configurable Inputs

The ISS 506 features four fully configurable inputs on BNC connectors that accommodate RGBHV, RGBS, RGsB, RGBcvS, component video, S-video, or composite video. High resolution sources can include computer-video signals up to WUXGA 1920x1200, and HDTV up to 1080p/60.

The ISS 506 also offers two additional configurable inputs for standard definition video in the composite video, S-video, or component video formats.

Optional SDI/HD-SDI Input

SDI/HD-SDI - Serial Digital Interface signals from cameras or other professional video equipment can easily be integrated into presentations with the optional SDI/HD-SDI input board. This board supports incoming SMPTE 259M and SMPTE 292M signals.

Preview and Program Outputs

Separate Preview and Program outputs provide the ability to manage presentations by previewing content before displaying it on the Program outputs. Operators can select the next input, cue up the material, insert logos, titles or PIP, and assign transition effects. Once everything has been prepared, the content can be sent live to the audience with a single button press.

The ISS 506 can output RGB or HDTV component video signals. The Program content is output simultaneously on five BNCs and a 15-pin HD connector, so that two displays can be driven at the same time.

Variety of Output Options

A flexible output expansion port can be populated to support optional DVI-D, 3G/HD-SDI, or scan converter output boards. When populated, these cards serve as a third Program output and offer additional system capabilities, such as recording or digital signal transmission.

Selectable Output Resolutions

The ISS 506 offers scaled output rates, including the following resolutions for computer-video, projectors, plasma and LCD displays, and HDTV:

640x480	1280x1024	480p
800x600	1360x765	576p
852x480	1365x1024	720p
1024x768	1366x768	1080i
1024x852	1400x1050	1080p
1024x1024	1600x1200	
1280x768	1920x1200	

Audio Switching

The ISS 506 delivers complete audio functionality with six input switching of stereo balanced or unbalanced sources. Audio switching can be either a hard cut or a cross-fade, timed to match the duration of a video transition. Individual gain and attenuation adjustments are available, eliminating noticeable differences when switching between sources of varying levels. Additionally, output volume control eliminates the need for an outboard audio preamplifier in many system designs. Automatic audio delay, based on video format, is applied to keep the audio and video signals synchronized.

Numerous Seamless Transition Effects

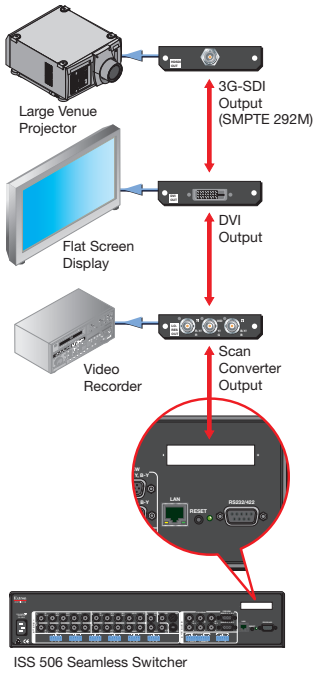
Several selectable wipe, dissolve, and cut effects can be utilized to enhance and deliver professional quality presentations, at the touch of a button. Programmable effect durations offer increased variety and further customization, while adding a high level of visual impact.

Multiple Logo Insertion with Dynamic Image Capture

The ISS 506 allows the user to add one or two logos to any presentation. A logo can be created by capturing any portion of an image displayed on-screen, and then storing it in memory. Logos may also be created on a PC and then uploaded to the ISS 506 as BMP - bitmap image files through the Ethernet port. Any of up to 16 logos stored in memory can be recalled for display, positioned anywhere on the image, and keyed into the display with specific RGB or luminance levels.

Features

Flexible Output Options



Flexible Output Options
An expansion port provides the option of a third, configurable Program output for sending high resolution digital video to a large venue projector or flat screen display, or recording presentations via a scan-converted video output.

Add Titles to Any Presentation

In addition to logos, title information or other content from an input source can be displayed over the current image. The content is keyed into the display at a selected luminance level.

Picture-in-Picture

PIP – picture-in-picture allows any input to be displayed on-screen simultaneously with another. PIP windows can be dynamically sized and positioned anywhere within the image with selectable color borders, and also transitioned into or out of the image using the available wipe, dissolve, and cut effects.

Integrator Friendly Set-Up Features

Auto-Image™ capability and 11 internal test patterns expedite the set up process and assist in delivering optimal image quality. Available test patterns include: color bars, two crosshatch patterns, grayscale, ramp, alternating pixels, raster border, and crop patterns for various aspect ratios.

RS-232 and RS-422 Controllable

Through the RS-232/RS-422 serial control port, the ISS 506 can be controlled and configured via the Extron Windows®-based control program, or integrated into a control system using Extron SIS™ - Simple Instruction Set serial commands.

Windows-based Control Software

The included Windows-based control software enables complete set up and real-time operation of the ISS 506.

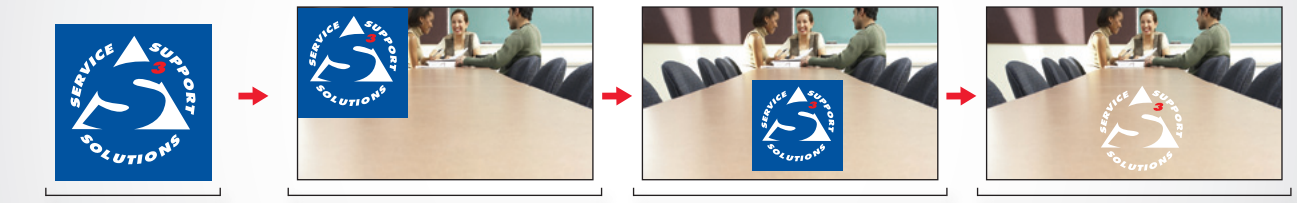
Ethernet Control

The ISS 506 can be managed and proactively monitored over a LAN, WAN, or the Internet. Ethernet control enables network exchange of BMP image files between the ISS 506 and PC.

Live Presentation Control

Presentations on the ISS 506 can be managed on-the-fly using the front panel, RS-232 or RS-422 control, or Ethernet control. An optional RCP 2000 Remote Control Panel, provides the hands-on controls necessary to manage a live event from a remote location. It interfaces with the ISS 506 via Ethernet, and allows the operator to select inputs, change transition effects, and make adjustments to transition duration and picture controls. The RCP 2000 is also equipped with a T-bar for manual control of dissolve speed, as well as a gooseneck lamp for low-light environments.

LOGO INSERTION



One or two logos can be inserted into any presentation using an RGB or luminance key.

DYNAMIC IMAGE CAPTURE

Dynamic Image Capture enables easy creation of logos for use with any presentation.

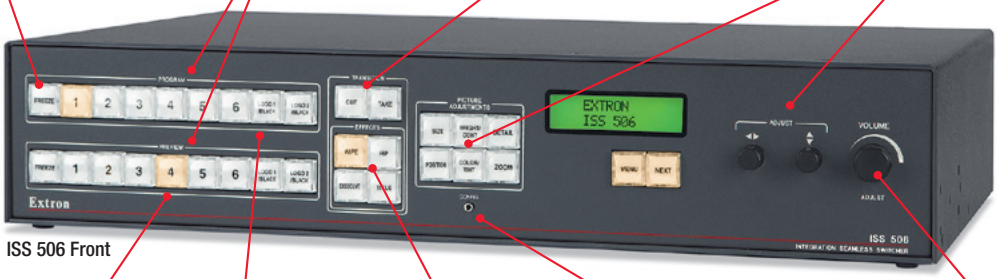
Overview

Image freeze control
Any selected input can be frozen, enabling extended viewing on the Program or Preview output.

Independent source selection
Input sources can be independently switched for the Program and Preview outputs.

Seamless transitions
A touch of a button engages a wipe, dissolve, or cut effect between sources.

User-friendly interface
An intuitive LCD interface, direct access buttons, and precise rotary controls enable detailed adjustment of image settings.



ISS 506 Front

Back-lit input selection buttons
Input selection buttons are easily identifiable using back-lit buttons with clear overlay labels, enabling simple front panel operation.

Logo insertion
Dedicated buttons allow quick insertion of one or two stored logos or a black screen.

Effects buttons
These offer quick access to seamless transition effects as well as PIP or title insertion.

Configuration port
The ISS 506 can be conveniently set-up and configured via the front panel RS-232 serial control port.

Output volume control
Adjustable output volume eliminates the need for an outboard preamplifier in many systems.

Fully configurable inputs
The ISS 506 features four fully configurable inputs that accommodate a wide range of sources, including RGB, component video, S-video, and composite video.

Optional SDI/HD-SDI input
This optional input facilitates integration of SMPTE 259M SDI and SMPTE 292M HD-SDI sources into AV systems.

Dual Program outputs
Two simultaneous Program outputs are available. The output signal format can be RGB or HDTV component video.

Preview output
The Preview output displays the "next to switch" source.

Optional output
A third Program output is available which can be configured with optional output boards for scan-converted video, DVI-D, or SMPTE 292M and SMPTE 424M compliant 3G/HD-SDI.

ISS 506 DI/DVI Back

High resolution input compatibility
The four fully configurable inputs accept computer-video resolutions up to WUXGA 1920x1200 as well as video sources, including HDTV 720p, 1080i, and 1080p/60.

Audio switching
Each audio input includes independent gain and attenuation, and sources are switched with a cut or cross-fade that follows the video transition effect.

Audio outputs
The Program audio has fixed and variable outputs.

Ethernet control
Monitor and control the ISS 506 over an IP network via the built-in Web server or the Extron Windows-based control program. Ethernet control enables uploading BMP image files from a PC and complete live event control via the optional Extron RCP 2000.

RS-232 and RS-422 control
The ISS 506 can be controlled and configured via the Extron Windows-based control program, or integrated into a control system.

Specifications

VIDEO INPUT

Number/signal type	4 RGBHV, RGBS, RGsB, RGBcvS, component video (interlaced or progressive), S-video, composite video 1 component video (interlaced), S-video, composite video 1 S-video, composite video, or optional digital component video (SDI or HD-SDI)
Resolution range	Autoscan 640x480 to 1920x1200, 480p, 576p, 720p, 1080i, 1080p

VIDEO PROCESSING

Encoder (for scan converted output)	10 bit digital[/lbl-b-lng]
Digital sampling (for program and preview outputs)	24 bit, 8 bits per color; 13.5 MHz standard (video), 194 MHz standard (RGB)[/lbl-b-lng]

VIDEO OUTPUT

Number/signal type	2 scaled RGBHV, RGBS, RGsB, HD YUV component video program outputs 1 scaled RGBHV, RGBS, RGsB, HD YUV component video preview output 1 optional output in one of the following formats: • DVI • 3G/HD-SDI (SMPTE 292 M) • scan converted output (interlaced component video, S-video, composite video)
Scaled resolution	640x480[1,2,3,4,5,6], 800x600[1,2,3,4,5,6], 852x480[1,2,3,4,5], 1024x768[1,2,3,4], 1024x852[1,2,3,4],1024x1024[1,2,3], 1280x768[1,2,3,4], 1280x1024[1,2,3], 1360x765[1,2,3], 1365x768[1,2,3], 1365x1024[1,2], 1366x768[1,2,3], 1400x1050[1,2], 1600x1200[1,2], HDTV 480p[2,10], 576p[1,5], 720p[1,2,8,9,10], 1080p[1,2,7,8,9,10], and 1080i[1,2,10] 1864x1050[1,2], 1280x800[1,2,3], 1440x900[1,2,3], 1680x1050[1,2], 1080p Sharp[2], and 1920x1200[2]* SDTV: NTSC, PAL (with optional scan converter output card [1] = 50 Hz, [2] = 60 Hz, [3] = 72 Hz, [4] = 96 Hz, [5] = 100 Hz, [6] = 120 Hz, [7] = 24 Hz, [8] = 25 Hz, [9] = 30 Hz, [10] = 59.94 Hz * 1920x1200 is available only on units shipped after first quarter of 2009.
Switching type	Seamless switching (cut, wipe, or dissolve)

SYNC

Input type	Autodetect (RGBHV, RGBS, RGsB), and component
Output type	RGBHV, RGBS, RGsB Tri-level on Y, R-Y, B-Y channels of component video or bi-level on Y channel of component video (selectable)
Standards	NTSC 3.58, NTSC 4.43, PAL, SECAM Optional SDI/HD-SDI input: SMPTE 259M-C, SMPTE 292M
Polarity	Positive or negative (selectable)

AUDIO

Gain	Unbalanced output: -6 dB; balanced output: 0 dB
Frequency response	20 Hz to 20 kHz, ±0.05 dB
THD + Noise	0.05% @ 1 kHz at +4 dBu and 0 dB gain
S/N	>83 dB (typical) at maximum output (unweighted)
Crosstalk	<-80 dB @ 1 kHz, fully loaded

AUDIO INPUT

Number/signal type	6 stereo, balanced/unbalanced
Input gain adjustment	-18 dB to +24 dB

AUDIO OUTPUT

Number/signal type	3 stereo, balanced/unbalanced (2 program, 1 preview)
Maximum level (Hi-Z)	>+21 dBu, balanced or unbalanced at 1% THD+N
Maximum level (600 ohm)	>+15 dBm, balanced or unbalanced at 1% THD+N

CONTROL/REMOTE — SWITCHER

Serial control ports	1 RS-232/RS-422: 1 rear panel 9-pin female D connector 1 RS-232: 1 front panel 2.5 mm mini stereo jack
Ethernet control port	1 RJ-45 female connector
Web server	Up to 200 simultaneous sessions 16 MB nonvolatile user memory
Program control	Extron control/configuration program for Windows® Extron Simple Instruction Set (SIS™) Microsoft® Internet Explorer® ver. 6 or higher, Netscape® Navigator®, Telnet

GENERAL

Power supply	Internal Input: 100-240 VAC, 50-60 Hz
Power consumption	35 watts
Mounting	
Rack mount	Yes, with included brackets
Enclosure dimensions	3.5" H x 17.5" W x 12.0" D (2U high, full rack wide) (8.9 cm H x 44.4 cm W x 30.5 cm D) (Depth excludes connectors and knobs. Width excludes rack ears.)
Product weight	8.5 lbs (3.9 kg)
Regulatory compliance	
Safety	CE, c-UL, UL
EMI/EMC	CE, C-tick, FCC Class A, ICES, VCCI

NOTE: All nominal levels are at ±10%.

Model	Version Description	Part number
IISS 506	Standard Version	60-742-01
ISS 506 SC	Scan Converted Output	60-742-03
SS 506 DI/DVI	SDI/HD-SDI Input, DVI-D Output	60-742-12
ISS 506 DI/SC	SDI/HD-SDI Input, Scan Converted Output	60-742-13
ISS 506 DI/3G-SDI	SDI/HD-SDI Input and 3G-SDI Output	60-742-16

For complete specifications, please go to www.extron.com
Specifications are subject to change without notice.

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